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10/594,530	11/22/2006	Erik Lundqvist	1505-1102	4647

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EXAMINER	
CONLON, MARISA	
ART UNIT	PAPER NUMBER
4127	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/594,530	LUNDQVIST, ERIK	
	Examiner	Art Unit	
	MARISA CONLON	4127	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 June 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *9-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *9-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *28 September 2006* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *11/22/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This communication is a first office action on the merits. Preliminary Amendment received on September 28, 2006 has been acknowledged. Claims 1-8 have been cancelled. Claims 9-23, as added by applicant's Preliminary Amendment are currently pending and have been considered below.

Drawings

1. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: reference character "150" is not shown. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if

only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The disclosure is objected to because of the following informalities:

On page 2, at line 7, the term "heel" and the term "quarters" have been designated the same reference character, “115".

On page 2, at line 24, the term "heel" and the term "quarters" have been designated the same reference character, “115".

On page 6, at line 19, the term “body" and the term "shoe" have been designated the same reference character, "205".

Appropriate correction is required.

4. Further, the specification is replete with unclear terms. Examples of some unclear, inexact or verbose terms used in the specification are:

On page 2, at line 32, the phrase “to flexible” is grammatically incorrect and should be replaced with the phrase --too flexible--.

On page 3, at line 1, the phrase “stones, for example, enters” is grammatically incorrect and should be replaced with the phrase --stones, for example, enter--.

On page 3, at line 4, the phrase “Horseshoes that strives" is grammatically incorrect and should be replaced with --Horseshoes that strive--.

On page 10, at line 13, the phrase “an natural extension” is grammatically incorrect and should be replaced with the phrase --a natural extension--.

5. The use of the trademark FUNDIA/RUUKKI INDUSTRIAL GROUP has been noted in this application. It should be capitalized wherever it appears and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

Claim Objections

6. Claim 10 is objected to because of the following informalities:

The recitation at line 8, “the transitions between the first and second shapes forms the articulation regions” is grammatically incorrect and should be replaced with --the transitions between the first and second shapes form the articulation regions--.

Appropriate correction is required.

7. Claims 12 and 18 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Specifically, claim 9 claims a horseshoe comprising at least one bending articulation region positioned as to correspond to the transition from the toe to the quarters of a hoof; neither claim 12 nor claim 18 further limits the subject matter claimed in claim 9. Applicant is required to cancel the claims, or amend the claims to place the claims in proper dependent form, or rewrite the claims in independent form.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claim 16 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely

exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 16 recites the broad recitation, "a hardness above 10 HRC", and the claim also recites “and even more preferably above 30 HRC” which is the narrower statement of the range/limitation.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. Claims 9-14 and 17-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bergeleen (US 6,263,973) in view of Lyden (US 6,082,462).

Regarding claim 9, Bergeleen teaches a horseshoe comprising a toe section, on each side followed by side sections, and heel sections (See Fig. 1) characterized in that at least one bending articulation region is provided (Col. 1, lines 39-45), said articulation region realized by local structural weakening of the shoe (Col. 3, lines 25-33, lines 39-50).

Bergeleen fails to explicitly disclose a horseshoe wherein the at least one bending articulation region is provided in each side section and positioned to

correspond to the transition from the toe to the quarters of a hoof, and in that the toe section is rigid as compared to the two side sections.

However, Lyden teaches a horseshoe wherein at least one bending articulation region is provided in each side section (45; Col. 7, lines 24-27; Col. 10, lines 59-61) and positioned to correspond to the transition from the toe to the quarters of a hoof (45, Fig. 1; Col. 8, lines 26-27; Col. 17, lines 39-42), and wherein the toe section is rigid as compared to the two side sections (106, Fig. 1; Col. 12, lines 2—23 disclosing a toe section being made of a relatively inflexible material).

Bergeleen and Lyden are analogous art because both are from the field of endeavor of horseshoes.

It would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the horseshoe of Bergeleen to include the at least one bending articulation region provided in each side section and positioned to correspond to the transition from the toe to the quarters of a hoof, and such that the toe section is rigid as compared to the two side sections, as taught by Lyden, because such positioning facilitates the natural flexing and widening of the horse's hoof when weight is applied (Col. 7, lines 17-20). Further, such fluctuation in the geometry of the rigid region dramatically affects the characteristic modes of vibration and nodal points of the horseshoe, in order to substantially prevent the horseshoe from going into resonance and causing hoof injury (see Col. 6, lines 1-50).

Regarding claim 10, Bergeleen discloses a horseshoe further characterized by an essentially flat approximately U-shaped body (Fig. 1) and a ridge formed on the outer part of the body and extending along the body (Col. 3, lines 11-19), wherein the ridge has a first shape in the toe section and at least a second shape in the side sections (Col. 3, lines 11-19), wherein the transitions between the first and second shapes form the articulation regions (see Col. 3, lines 25-33, 39-55 teaching that decreasing the cross sectional are of a portion of the ridge results in flexibility of the shoe).

Bergeleen fails to explicitly disclose a horseshoe wherein the second shape of the ridge in the side sections has a smaller cross sectional area than the first shape of the ridge in the toe section.

However, Lyden teaches a horseshoe wherein the second shape of the ridge in the side sections has a smaller cross sectional area than the first shape of the ridge in the toe section (Fig. 18; Col. 9, lines 45-50 teaching a horseshoe with an anterior concavity).

Bergeleen and Lyden are analogous art because both are from the field of endeavor of horseshoes.

It would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the horseshoe of Bergeleen to include the second shape of the ridge in the side sections has a smaller cross sectional area than the first shape of the ridge in the toe section, as taught by Lyden, because such structure facilitates with the natural flexing and widening of the horse's hoof when weight is applied, as it conforms to the natural rocker area of the toe of the horse's hoof.

Regarding claims 11 and 17, Bergeleen discloses a horseshoe with all the structural elements as mentioned in claims 9 and 10 above, but fails to disclose the articulation regions for the springing motion are formed in close proximity to the toe section.

However, Lyden teaches a horseshoe wherein the articulation regions for the springing motion are formed in close proximity to the toe section (Col. 17, lines 39-41).

It would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the horseshoe of Bergeleen to include the bending articulation regions are formed in close proximity to the toe section, as taught by Lyden, because such positioning facilitates the natural flexing and widening of the horse's hoof when weight is applied (Col. 7, lines 17-20). Further, such fluctuation in the geometry of the rigid region dramatically affects the characteristic modes of vibration and nodal points of the horseshoe, in order to substantially prevent the horseshoe from going into resonance and causing hoof injury (Col. 6, lines 1-50).

Regarding claims 12 and 18, Bergeleen discloses a horseshoe with all the structural elements as mentioned in claims 9 and 10 above, but fails to disclose the articulation regions for the springing motion are located as to correspond to the transition from the toe to the quarters of a horse hoof.

However, Lyden teaches a horseshoe wherein the articulation regions for the springing motion are located as to correspond to the transition from the toe to the quarters of a horse hoof (Col. 17, lines 39-41).

It would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the horseshoe of Bergeleen to include the bending articulation regions are located as to correspond to the transition from the toe to the quarters of a horse hoof, as taught by Lyden, because such positioning facilitates the natural flexing and widening of the horse's hoof when weight is applied (Lyden, Col. 7, lines 17-20). Further, the placement facilitates with the natural flexing and widening of the horse's hoof when weight is applied, as it conforms to the natural rocker area of the toe of the horse's hoof.

Regarding claims 13, 19, and 20, Bergeleen further discloses a horseshoe with a ridge with at least one cut-out in each of the two side sections to reduce the cross sectional are of the ridge (Col. 4, lines 50-58 disclosing at least one groove; 80, Fig. 1), and the cut-outs are located in the articulation regions (80, Fig. 1).

Regarding claims 14 and 21-23, Bergeleen further discloses a horseshoe wherein the body is provided with at least one through hole in each of the two side sections to reduce the cross sectional area of the ridge, and the through holes are located in the articulation regions (70, Fig. 1).

12. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bergeleen in view of Lyden as applied to claim 9 above, and in further view of Sundgren et al. (US 2004/0154158).

The combination of Bergeleen and Lyden discloses all of the structural elements as mentioned in claim 9 above, but fails to disclose a horseshoe that is made of a hardened boron steel material.

However, Sundgren et al. teaches the technique of making an automotive beam out of hardened boron steel material in order to strengthen the impact resistance of the beam, while achieving a product that is light in weight (Col. 1, lines 30-33, Col. 2, lines 12-15, lines 26-29). The technique of using hardened boron steel is applicable to horseshoes, because the strong and lightweight nature of hardened boron steel provides for a durable shoe that is not so heavy as to hinder the speed of the horse as it runs.

It would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the horseshoe of the combination of Bergeleen and Lyden by applying the technique taught in Sundgren et al., because one of ordinary skill in the art would have recognized that making the shoe out of a hardened boron steel material would have yielded the aforementioned predictable results.

13. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bergeleen in view of Lyden as applied to claim 9 above, and in further view of Rayle et al. (4,041,868).

The combination of Bergeleen and Lyden discloses all of the structural elements as mentioned in claim 9 above, but fails to disclose a horseshoe that is made of a steel material with a hardness above 30 HRC.

However, Rayle et al. teaches the technique of heat treating steel to high hardness levels in the range of 33 to 45 HRC in order to increase the strength of the steel (Col. 2, lines 61-68). The technique of hardening steel to the range of 33 to 45 HRC is applicable to horseshoes. Specifically, increasing the hardness of the horseshoe to this level permits the shoe to wear sufficiently so that it does not have to be changed as frequently. Consequently, the horse's hoof is given sufficient time to grow to provide new tissue for the nails for the replacing horseshoe.

It would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the horseshoe of the combination of Bergeleen and Lyden by applying the technique taught in Rayle et al., because one of ordinary skill in the art would have recognized that making the shoe out of a steel material a with a hardness above 30 HRC would have yielded the aforementioned predictable results.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Reeves (US 4,480,698) teaches a horseshoe with a coating that has a hardness of between 40 and 45 HRC, and further teaches the advantages of a durable horseshoe, as allowing the horse's hoof sufficient time to grow to provide new tissue for the nails for the replacing horseshoe.

Ovnecik (US 5,566,765) teaches a horseshoe comprising a ridge formed on the outer part of the body and extending along the body, with a first shape in toe section and a second shape in the side sections.

Walker (US 585,992) teaches a horseshoe designed with sufficient spring to readily yield at the toe to permit expansion and contraction of the animal's hoof.

Teichman (US 5,186,259) teaches with a horseshoe formed from one piece of steel material comprising a ridge formed on the outer part of the body and extending along the body, wherein the depression permits substantial solar flexing of the hoof.

Anderson (US 4,889,188) teaches a horseshoe with an articulation region formed in each section.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARISA CONLON whose telephone number is (571)270-5739. The examiner can normally be reached on Monday-Friday 7:30-5:00, with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynda Jasmin can be reached on 571-272-6782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MARISA CONLON
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M.C.

/Lynda Jasmin/

Supervisory Patent Examiner, Art Unit 4127